



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,402	02/13/2004	Steven J. McCarthy	ID-504 (80226)	2799
89137 7590 02/17/2011 Allen, Dyer, Doppelt, Milbrath & Gilchrist - RIM 255 S. Orange Avenue Suite 1401 Orlando, FL 32801				
EXAMINER NGUYEN, MINH CHAU				
ART UNIT 2442		PAPER NUMBER		
NOTIFICATION DATE 02/17/2011		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

creganoa@addmg.com
portfolioprossecution@rim.com

Office Action Summary

Application No.

10/779,402

Applicant(s)

MCCARTHY ET AL

Examiner

MINH-CHAU NGUYEN

Art Unit

2442

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,6,8-10,12,14,15,17,18,20 and 22-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-6,8-10,12,14-15,17-18,20,22-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is responsive to communications of the application 10/779402, filed on 02/13/2004; amendment filed on 12/01/2010. Claims 1-3, 5-6, 8-10, 12, 14-15, 17-18, 20 and 22-28 remain pending in the application for further examination.

Remarks

The Applicant's amendment and arguments filed on 12/01/2010 have fully considered.

The Examiner withdraws the objection to claim 17, in light of Applicant's amendment.

The Examiner withdraws the rejection to claims 17-18, 20 and 28 under 35 U.S.C. 101, in light of Applicant's amendment.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-6, 8-10, 12, 14-15, 17-18, 20 and 22-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albert et al. (US 6,970,913) hereinafter "**Albert**", and in view of Dar et al. (US 2004/0205120) hereinafter "**Dar**".

Claim 1

Albert teaches a communications system comprising:

a plurality of servers [*i.e. servers 221-223*] connected together in a network [*i.e. network 210*] for processing a plurality of different job types [*i.e. processing a plurality of task types for flowing of packets or handling connections (e.g. "routing the packet, gathering statistics...modifying packet" in col. 7, lines 14-18; and "Forwarding agents can accomplish their required tasks" in col. 8, line 11); and these task types will be implemented by a plurality of virtual machines on the servers*] having respective resource usage [*i.e. processing capacity usage*] associated therewith (Albert, figure 2A; col. 6, line 51-col. 7, line 30; col. 8, lines 8-12, lines 57-67; col. 28, lines 9-47; col. 29, line 44-col. 30, line 49; col. 32, lines 14-51);

each server, after beginning execution of at least one job, determining a respective health metric thereof based upon at least one job being executed thereby [*i.e. "The nature of the feedback messages from the real machines is that the messages somehow express the level of load on the real machine as a result of handling connections" and "the server determines the usage of processing capacity for each of the virtual machines that is being implemented" in col. 30, lines 1-3, lines 21-23, thus the usage of processing capacity is considered as the health metric which determined from the result after the task being executed*] and weighting the health metric of the at least one job [*i.e. weighting the usage of processing capacity to obtain "a weight" for the virtual*

machine] (Albert, col. 28, lines 9-47; col. 29, line 44-col. 30, line 49; col. 32, lines 14-51); and

said servers mapping the weighted health metrics to a common scale [*i.e. expressing the weights to a common level (e.g. high or low level)*] (Albert, col. 30, line 1-col. 31, line 3; col. 32, lines 14-51); and

a dispatcher [*i.e. service manager 1 or 1140*] for collecting the commonly scaled weighted health metrics [*i.e. weights or levels of load*] from said servers [*i.e. the servers the real machines*] by polling said servers for the weighted health metrics [*i.e. retrieving is considered as polling the weights of the real machines*] and distributing jobs to said servers based thereon [*i.e. assigning connection tasks to the real machines based on the weights*] (Albert, figures 2A, 11A; col. 6, line 51-col. 7, line 30; col. 8, lines 8-12, lines 57-67; col. 28, lines 9-47; col. 29, line 44-col. 30, line 49; col. 32, lines 14-51).

Albert fails to teach different resource usage characteristics; and the health metric is determined based upon the respective resource usage characteristic after execution of the job, the resource usage characteristic representing resources being consumed by the at least one job; and the weighted health metrics for different resource usage characteristics.

However, in an analogous art, **Dar** teaches different resource usage characteristics [*i.e. processor (CPU), memory, and input/output (I/O) metrics*] (Dar, paragraphs 0029); the health metric is determined based upon the

respective resource usage characteristic after execution of the job [*i.e. the health of the server is considered as the health metric which aggregating the metrics. Moreover, Dar discloses "This monitoring may be periodic, e.g., every 10 seconds...or a synchronous monitoring of a different period would be acceptable", thus the monitoring could be run for obtaining the health and/or the metrics after a period of time of the program execution*], the resource usage characteristic representing resources being consumed by the at least one job [*i.e. the metrics are consumed by the program*] (Dar, paragraphs 0001, 0027, 0029-0032); and the weighted health metrics for different resource usage characteristics [*i.e. the total loads for the servers for different resource (e.g. CPU, memory, I/O) loads*] (Dar, paragraphs 0001, 0027, 0029-0032).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the features of different resource usage characteristics; and the health metric is determined based upon the respective resource usage characteristic after execution of the job, the resource usage characteristic representing resources being consumed by the at least one job; and the weighted health metrics for different resource usage characteristics, as disclosed by Dar, into the teachings of Albert. One would be motivated to provide "one or more of the following advantages...to improve resource utilization by the servers...Network server load balancing may be improved. Availability and/or scalability of network servers can be improved" [Dar, paragraph 0016].

Claim 2

Albert in combination with Dar teach the communications system of Claim 1 wherein the resource usage characteristics comprise at least one processing utilization characteristic and at least one input/output utilization characteristic [*i.e. processor (CPU) and input/output (I/O) metrics*] (Dar, paragraph 0029).

Claim 3

Albert in combination with Dar teach the communications system of Claim 1 further comprising a knowledge base [*i.e. a database*] for cooperating with said dispatcher [*i.e. the service manager*] for storing the weighted health metrics [*i.e. storing the weights*] (Albert, col. 31, lines 49-59).

Claim 5

Albert in combination with Dar teach the communications system of Claim 1 wherein said servers provide completed job results to said dispatcher, and wherein the weighted health metrics are provided to said dispatcher with the completed job results [*i.e. "the feedback messages from the real machines is that the messages somehow express the level of load on the real machine as a result of handling connections", and*

"a process executed on a server for determining a weight to be sent to the service manager in a feedback message... to determining the weights..., in a step 1206, the server determines the remaining processing capacity", thus the weights are sent to the service manger for the completed job/process results] (Albert, Col. 30, L. 1-49).

Claim 6

Albert in combination with Dar teach the communications system of Claim 1 further comprising at least one load generator [*i.e. load balancer*] for generating the jobs for said servers and communicating the jobs to said dispatcher; and wherein said dispatcher [*i.e. the service manager*] further provides the completed job results to said at least one load generator [*i.e. "load balancer to be located between group of servers. It would be advantageous if a distributed architecture could be used for load balancing and if a server manager could be used to gather feedback from servers to make better load balancing decisions"* in col. 3, lines 60-64] (Albert, col. 3, line 59-col. 4, line 3; col. 8, lines 57-67; col. 11, lines 56-65; col. 28, lines 9-47; col. 30, lines 1-49; col. 32, lines 14-51).

Claim 8

Albert in combination with Dar teach the communications system of Claim 1 wherein the jobs relate to electronic mail (e-mail) processing [*i.e. the programs provide*

email service] (Dar, paragraph 0001). One would be motivated to provide a wide array of services to clients via the network [Dar, paragraph 0001]

Claim 9

Albert teaches a load distributor for a plurality of servers [*i.e. servers 221-223*] connected together in a network [*i.e. network 210*] for processing a plurality of different job types [*i.e. processing a plurality of task types for flowing of packets or handling connections (e.g. "routing the packet, gathering statistics...modifying packet" in col. 7, lines 14-18; and "Forwarding agents can accomplish their required tasks" in col. 8, line 11); and these task types will be implemented by a plurality of virtual machines on the servers*] having respective resource usage [*i.e. processing capacity usage*] associated therewith (Albert, figure 2A; col. 6, line 51-col. 7, line 30; col. 8, lines 8-12, lines 57-67; col. 28, lines 9-47; col. 29, line 44-col. 30, line 49; col. 32, lines 14-51); each server, after beginning execution of at least one job, determining a respective health metric thereof based upon at least one job being executed thereby [*i.e. "The nature of the feedback messages from the real machines is that the messages somehow express the level of load on the real machine as a result of handling connections" and "the server determines the usage of processing capacity for each of the virtual machines that is being implemented" in col. 30, lines 1-3, lines 21-23, thus the usage of processing capacity is considered as the health metric which determined from the result after the task being executed*] and weighting the health metric of the at least one job [*i.e.*

weighting the usage of processing capacity to obtain "a weight" for the virtual machine] (Albert, col. 28, lines 9-47; col. 29, line 44-col. 30, line 49; col. 32, lines 14-51), the load distributor comprising:

a dispatcher [*i.e. service manager 1 or 1140*] for collecting the commonly scaled weighted health metrics [*i.e. weights or levels of load*] from said servers [*i.e. the servers or the real machines*] by polling said servers for the weighted health metrics [*i.e. retrieving is considered as polling the weights of the real machines*] and distributing jobs to said servers based thereon [*i.e. assigning connection tasks to the real machines based on the weights*] (Albert, figures 2A, 11A; col. 6, line 51-col. 7, line 30; col. 8, lines 8-12, lines 57-67; col. 28, lines 9-47; col. 29, line 44-col. 30, line 49; col. 32, lines 14-51); and

said servers mapping the weighted health metrics to a common scale [*i.e. expressing the weights to a common level (e.g. high or low level)*] (Albert, col. 30, line 1-col. 31, line 3; col. 32, lines 14-51); and

a knowledge base [*i.e. a database*] for cooperating with said dispatcher [*i.e. the service manager*] for storing the weighted health metrics [*i.e. storing the weights*] (Albert, col. 31, lines 49-59).

Albert fails to teach different resource usage characteristics; and the health metric is determined based upon the respective resource usage characteristic after execution of the job, the resource usage characteristic

representing resources being consumed by the at least one job; and the weighted health metrics for different resource usage characteristics.

However, in an analogous art, **Dar** teaches different resource usage characteristics [*i.e. processor (CPU), memory, and input/output (I/O) metrics*] (Dar, paragraphs 0029); the health metric is determined based upon the respective resource usage characteristic after execution of the job [*i.e. the health of the server is considered as the health metric which aggregating the metrics. Moreover, Dar discloses "This monitoring may be periodic, e.g., every 10 seconds...or a synchronous monitoring of a different period would be acceptable", thus the monitoring could be run for obtaining the health and/or the metrics after a period of time of the program execution*], the resource usage characteristic representing resources being consumed by the at least one job [*i.e. the metrics are consumed by the program*] (Dar, paragraphs 0001, 0027, 0029-0032); and the weighted health metrics for different resource usage characteristics [*i.e. the total loads for the servers for different resource (e.g. CPU, memory, I/O) loads*] (Dar, paragraphs 0001, 0027, 0029-0032).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the features of different resource usage characteristics; and the health metric is determined based upon the respective resource usage characteristic after execution of the job, the resource usage characteristic representing resources being consumed by the at least one job; and the weighted health metrics for different resource usage

characteristics, as disclosed by Dar, into the teachings of Albert. One would be motivated to provide "one or more of the following advantages...to improve resource utilization by the servers...Network server load balancing may be improved. Availability and/or scalability of network servers can be improved" [Dar, paragraph 0016].

Claim 14

Albert teaches a job distribution method for a plurality of servers a plurality of servers [*i.e. servers 221-223*] connected together in a network [*i.e. network 210*], the servers for processing a plurality of different job types [*i.e. processing a plurality of task types for flowing of packets or handling connections (e.g. "routing the packet, gathering statistics...modifying packet" in col. 7, lines 14-18; and "Forwarding agents can accomplish their required tasks" in col. 8, line 11); and these task types will be implemented by a plurality of virtual machines on the servers*] having respective resource usage [*i.e. processing capacity usage*] associated therewith (Albert, figure 2A; col. 6, line 51-col. 7, line 30; col. 8, lines 8-12, lines 57-67; col. 28, lines 9-47; col. 29, line 44-col. 30, line 49; col. 32, lines 14-51), the method comprising:

determining a respective health metric of each server after it begins execution of at least one job based upon the at least one job being executed thereby [*i.e. "The nature of the feedback messages from the real machines is that the messages somehow express the level of load on the real machine as a*

result of handling connections” and “the server determines the usage of processing capacity for each of the virtual machines that is being implemented” in col. 30, lines 1-3, lines 21-23, thus the level of load of each real machine is determined based on the usage of processing capacity from the result after the task being executed] and weighting the health metric of the at least one job [i.e. weighting the usage of processing capacity to obtain “a weight”] (Albert, col. 28, lines 9-47; col. 29, line 44-col. 30, line 49; col. 32, lines 14-51);

polling said servers for the weighted health metrics [i.e. retrieving is considered as polling the weights of the real machines] (Albert, col. 32, lines 14-51) and mapping the weighted health metrics to a common scale [i.e. expressing the weights to a common level (e.g. high or low level)] (Albert, col. 30, line 1-col. 31, line 3; col. 32, lines 14-51); and

distributing jobs to said servers based upon the commonly scaled weighted health metrics [i.e. assigning connection tasks to the real machines based on the weights] (Albert, col. 28, lines 9-47; col. 29, line 44-col. 30, line 49; col. 32, lines 14-51).

Albert fails to teach different resource usage characteristics; and the health metric is determined based upon the respective resource usage characteristic after execution of the job, the resource usage characteristic representing resources being consumed by the at least one job; and the weighted health metrics for different resource usage characteristics.

However, in an analogous art, **Dar** teaches different resource usage characteristics [*i.e. processor (CPU), memory, and input/output (I/O) metrics*] (Dar, paragraphs 0029); the health metric is determined based upon the respective resource usage characteristic after execution of the job [*i.e. the health of the server is considered as the health metric which aggregating the metrics. Moreover, Dar discloses "This monitoring may be periodic, e.g., every 10 seconds...or a synchronous monitoring of a different period would be acceptable", thus the monitoring could be run for obtaining the health and/or the metrics after a period of time of the program execution*], the resource usage characteristic representing resources being consumed by the at least one job [*i.e. the metrics are consumed by the program*] (Dar, paragraphs 0001, 0027, 0029-0032); and the weighted health metrics for different resource usage characteristics [*i.e. the total loads for the servers for different resource (e.g. CPU, memory, I/O) loads*] (Dar, paragraphs 0001, 0027, 0029-0032).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the features of different resource usage characteristics; and the health metric is determined based upon the respective resource usage characteristic after execution of the job, the resource usage characteristic representing resources being consumed by the at least one job; and the weighted health metrics for different resource usage characteristics, as disclosed by Dar, into the teachings of Albert. One would be motivated to provide "one or more of the following advantages...to improve

resource utilization by the servers...Network server load balancing may be improved. Availability and/or scalability of network servers can be improved"
[Dar, paragraph 0016].

Claim 22

Albert in combination with Dar teach the communications system of Claim 1, wherein the at least one job comprises e-mail delivery [*i.e. the programs provide email service, and the email delivery is included in the email service*] (Dar, paragraph 0001). One would be motivated to provide a wide array of services to clients via the network [Dar, paragraph 0001].

Claim 23

Albert in combination with Dar teach the communications system of Claim 6, wherein said at least one load generator [*i.e. load balancing*] comprises an e-mail aggregation engine [*i.e. the programs provide email service, and the load balancing between the servers for performing the programs based on the aggregating metrics, thus the examiner interprets that the aggregating metrics would be done by an aggregation engine*] (Dar, paragraphs 0001, 0016, 0029, 0033).

Claim 24

Albert in combination with Dar teach the communications system of Claim 6, wherein said servers also provide completed job results to said at least one load generator [i.e. *“load balancer to be located between group of servers. It would be advantageous if a distributed architecture could be used for load balancing and if a server manager could be used to gather feedback from servers to make better load balancing decisions” in col. 3, lines 60-64*] (Albert, col. 3, line 59-col. 4, line 3; col. 8, lines 57-67; col. 11, lines 56-65; col. 28, lines 9-47; col. 30, lines 1-49; col. 32, lines 14-51).

Claims 10, 12, 25, 26 are corresponding apparatus claims of system claims 2, 5, 22, 6. Therefore, they are rejected under the same rationale.

Claims 15, 27 are corresponding method claims of system claims 2, 22. Therefore, they are rejected under the same rationale.

Claims 17-18, 20, 28 are corresponding computer-readable medium claims of apparatus claims 9-10, 12, 25. Therefore, they are rejected under the same rationale.

Response to Arguments

Applicant's arguments filed 12/01/2011 have been fully considered but they are not persuasive. Specifically, Applicants made the following arguments:

Argument 1:

Regarding to claims 1, 9, 14, and 17, the selective combination of Albert et al. (hereinafter Albert) and Dar, however, fails to disclose “each server, after beginning execution of at least one job, determining a respective health metric thereof base upon the at least one job being executed thereby and weighting the health metric based upon the respective resource usage characteristic of the at least one job, the resource usage characteristic representing resources being consumed by the at least one job”, as recited in independent claims [see Remarks, page 11].

The Examiner disagrees with the argument.

First of all, the Examiner asserts that Albert does disclose the features of:

each server, after beginning execution of at least one job, determining a respective health metric thereof based upon at least one job being executed thereby [i.e. “The nature of the feedback messages from the real machines is that the messages somehow express the level of load on the real machine as a result of handling connections” and “the server determines the usage of processing capacity for each of the virtual machines that is being implemented” in (col. 30, lines 1-3, lines 21-23)]. According to this citation, the Examiner interprets that Albert’s usage of processing capacity which is determined from the result after the task being executed by each of the real machines to read on Applicant’s the health metric is determined after the each server is beginning execution of at least on job; and

weighting the health metric of the at least one job [i.e. weighting the usage of processing capacity to obtain "a weight" for the virtual machine] (Albert, col. 28, lines 9-47; col. 29, line 44-col. 30, line 49; col. 32, lines 14-51); and

Second, Dar, in an analogous art, does disclose the features of:

different resource usage characteristics [i.e. processor (CPU), memory, and input/output (I/O) metrics] (Dar, paragraphs 0029);

the health metric is determined and weighted based upon the respective resource usage characteristic after execution of the job [i.e. "This monitoring may be periodic, e.g., every 10 seconds...or a synchronous monitoring of a different period would be acceptable" in paragraph 0029] (see Dar, paragraphs 0001, 0027, 0029-0032). Thus, the Examiner interprets that Dar's health of the server is considered as Applicant's the health metric, which aggregating the plurality of metrics; and Dar's monitoring could be run for obtaining the health and/or the metrics after a period of time of the program execution to read on Applicant's health metric is monitored and determined after the execution of the job; and Dar's total loads of the servers for different resource (e.g. CPU, memory, I/O) loads to read on Applicant's weighted health metric.

the resource usage characteristic representing resources being consumed by the at least one job [i.e. the metrics are being consumed by the at least one program execution] (Dar, paragraphs 0001, 0027, 0029-0032).

In addition, in response to Applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., *the server itself determining the health metric, as taught by independent claim 1* [see Remarks, pages 11-12]) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Therefore, the Examiner asserts that the combination of Albert and Dar has not failed to disclose or suggest the recited features "*each server, after beginning execution of at least one job, determining a respective health metric thereof base upon the at least one job being executed thereby and weighting the health metric based upon the respective resource usage characteristic of the at least one job, the resource usage characteristic representing resources being consumed by the at least one job*" recited in the claims 1, 9, 14, and 17.

On this basis, the 103 rejection STANDS.

Conclusion

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH-CHAU NGUYEN whose telephone number is (571)272-4242. The examiner can normally be reached on 7AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GLENTON BURGESS can be reached on (571) 272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. N./
Examiner, Art Unit 2442

/KEVIN BATES/
Primary Examiner, Art Unit 2456